

Active, Thin and Hot! An Actualist Response to Carruthers' Dispositionalist HOT View

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COMMENTARY ON: Carruthers, P. (1998) ["Natural theories of consciousness,"](#) *European Journal of Philosophy*, 6(2), 203-222.

ABSTRACT: In this article, I present a response to Peter Carruthers' criticisms of the actualist version of the higher-order thought hypothesis of consciousness developed by David M. Rosenthal (1986, 1993, 1997, forthcoming). I argue that Carruthers' worry of "cognitive overload" is not sufficient to derail the actualist HOT theory. In addition, I present criticisms of Carruthers' dispositionalist HOT theory. I argue that the positing of a "short-term memory store" does not explicate the notion of mental state consciousness, and that the dispositional approach fails to capture crucial distinctions in the way we are conscious of our mental states. I close by suggesting that there may be less to consciousness than we intuit.

In philosophy, as well as in life, it is often good advice to be active, and to be thin. In his 1998 article "Natural theories of consciousness," Peter Carruthers argues convincingly for a higher-order thought (HOT) theory of mental state consciousness, opting for a dispositionalist version of the hypothesis. Carruthers presents powerful arguments in favor of a HOT theory, as opposed to a first-order representational (FOR) view, or a higher-order experience or higher-order perception (HOE or HOP) view. In wading

through this bowl of philosophical alphabet soup, I will diverge from Carruthers only at his final choice-point, opting for an actualist version of the HOT theory, as developed by David Rosenthal (1986, 1993, 1997, forthcoming). I will urge Carruthers to embrace active HOT, and recognize that conscious experience may be thinner than it seems. Carruthers proposes that for a mental state to be conscious (state consciousness), it must be present in a "special-purpose short-term memory store whose function is, *inter alia*, to make its contents available to [higher-order thought]" (Carruthers, 1998, p. 13). Carruthers argues that HOT is needed for state consciousness, because in order to be conscious of our states, we must be able to make distinctions between our experiences, and this requires being able to think about (and so conceptualize) our experiences. This ability, in turn, requires the ability to distinguish between appearance and reality. This, Carruthers holds, requires the presence of HOTs, which conceptualize the experience. (See Carruthers 1996, Sec. 5.8, for a detailed defense of these claims. I will not delve into the issue of the modal force of "requires" here. In his 1996 book *Language, Thought and Consciousness*, Carruthers offers several arguments in favor of differing degrees of "natural" and "conceptual" necessity for the presence of HOTs in state consciousness, but none of them seem to me to be particularly convincing. The best that can be established, I believe, is that the manner in which humans actually are conscious of their own mental states requires HOTs.)

Carruthers maintains that the presence of the special-purpose short-term memory store is required to avoid the problem of "cognitive overload," which plagues actualist HOT theories. Carruthers finds it implausible that HOTs have the power to fully represent the detail of our conscious experience. To do so, they would have to re-represent an enormous amount of information. Carruthers contends that this would occupy a huge amount of our cognitive resources, much more than would be expected from an evolutionary stand-point. The memory store proposal attempts to avoid the problem by providing an actual place for the presence of the rich detail of conscious experience, while avoiding the need for that experience to be fully conceptualized by HOT. All that is required of HOTs, according to Carruthers, is that they be available to do the meta-cognitive job of distinguishing between and conceptualizing our experiences when called upon. HOT need not be actively engaged in this process at each moment of conscious experience; we simply require the *disposition* to token the HOTs in order to be conscious. In this manner, Carruthers attempts to reconcile the need for HOT in state consciousness with the problem of cognitive overload.

But how plausible is Carruthers' dispositionalist version of the HOT theory, with its attached special-purpose short-term memory store? Unfortunately, the view is flawed. First and foremost, state consciousness is most plausibly viewed as an *occurrent* process. It can not be a dispositional state, because mere dispositional access to HOT is not sufficient for state consciousness. The HOTs must be actively engaged in conceptualizing the lower-order state for state consciousness to be present. In addition, it is not at all clear how the special-purpose short-term memory store can fulfill its purpose in Carruthers' scheme. I will argue that because presence in the store is sufficient for consciousness (the HOTs need not actually occur) the role of HOT in explaining consciousness is lost. Finally, it is not clear that presence in the memory store avoids the problem of cognitive

overload. What explains the occurrent detail of our conscious experience when the disposition to token HOTS is not actual? Furthermore, even in Carruthers' dispositionalist scheme, HOT must at least sometimes conceptualize perceptual experience (or else what is the force of "dispositional"?), so he must tackle the problem of representing sensory states in any event. I will work through the details of these objections in turn, closing with a little promotion for a "thin" view of conscious experience.

Intuitively, following our commonsense, folk-psychological notion, consciousness is an occurrent process, something that is actively going on when we have conscious experiences. This is by no means a decisive consideration, particularly in light of the fact that all HOT theories jettison the intuitive notion that consciousness is intrinsic to mental states. So why hold on to the occurrent intuition? For starters, if this notion can be preserved in an account of consciousness, that is a mark in its favor. More importantly, it is difficult to see how mere disposition to token HOTS can do the job that made HOTS a reasonable posit in the first place. Let us, for the sake of argument, assume some sensory state has been "placed" in the short-term memory store, say the sensations caused by a tree growing in Brooklyn, on a sunny day. Now, we can be conscious of a great deal of detail and subtlety in this sensation. But, according to Carruthers, we may well be engaged in *no* HOT directed at our sensation of this scene. It may just be sitting in the memory store. Why does the mere disposition to token conceptualizing HOT change its status from unconscious to conscious? If presence in the store is enough, HOTS seem irrelevant to the phenomenon of state consciousness. They are relegated to a role in meta-cognition, and add nothing to an explication of state consciousness. On the actualist HOT theory proposed by Rosenthal, state consciousness amounts to being conscious *of* our mental states (Rosenthal refers to this notion as "transitive consciousness". See Rosenthal 1997, forthcoming). To be conscious of something we must either perceive it or think of it. The same goes for our consciousness of our mental states. The mere disposition to perceive my hand does not cause me to perceive it. We must actively engage in perception to perceive things, and in the case of state consciousness, we must actively engage in HOT in order to be conscious of our mental states. In addition, we can be conscious of our states to a greater and lesser degree. We might consciously experience something as a swirling green blob, or as an oak tree, depending on how we conceptualize the scene. But it is not clear how dispositions to form HOTS can account for this difference. In this case the *same* sensory information would be present in the memory store. We are disposed to conceptualize experiences in a variety of competing ways. What, on Carruthers' view, accounts for the conceptualization that wins out? Mere disposition seems ill suited to make this kind of distinction. Yet we actually experience just one scene, despite the many HOTS we may be disposed to token. If the sensation is already properly conceptualized, what does HOT add? And if not, how can dispositions do the job?

This objection can be illustrated by employing Dennett's "hide the thimble" example (Dennett, 1991). In the game, a thimble is "hidden" in plain view. The goal is simply to find it. Often, one will stare right at the thimble, at yet fail to "see" it. In such a case, on Carruthers view, the sensory state will be present to the memory store, including the sensation of the thimble. But we need not be conscious of it. An actualist HOT view can

explain this by claiming that the occurrent HOT does not represent the target sensory state as containing a thimble. The dispositionalist may hold, on the one hand, that the thimble, for some reason, does not make it into the memory store. But this is hard to motivate, considering the thimble may well be right in the center of focal vision. What sort of filter would prevent only certain aspects of sensation from reaching the special memory store? Alternately, the dispositionalist can posit a force that blocks certain HOTs with thimble content from even being *disposed* to be tokened. This is also hard to swallow, considering one is expressly looking for the thimble, and one is clearly employing a large amount of one's cognitive resources to find it (lest one be the last to see it, and be forced to endure the mockery of all the other philosophers!). I find neither course suitable and conclude that this important aspect of state consciousness can only be explicated by the actualist HOT view.

There are further problems for the dispositionalist line. One of the main motivations for Carruthers' position is the idea that *access* or *availability* to HOT, and the meta-cognitive processes Carruthers argues HOT is involved in, is the crucial factor in state consciousness. But the notion of meta-cognitive access is not sufficient for consciousness, as Carruthers convincingly argues against Kirk (Carruthers, 1998, p. 7). Yet his own view seems vulnerable to the same sort of criticism. Why should mere dispositional access to HOT be sufficient to make a state conscious? Access to complex meta-cognitive processes can occur in the absence of consciousness, for example when we suddenly arrive at the solution to a complicated problem we have been unable to solve consciously. Furthermore, these unconscious problem solving episodes can involve mental concepts from our theory of mind. Consider, for example, the case of a psychological researcher suddenly coming up with an experiment to demonstrate a false belief task. We seem to have access to the full range our concepts *unconsciously*. So it seems unclear why potential access to HOT and whatever processes such access may be implicated in could make a difference in consciousness, if complex meta-cognition can go on unconsciously. What appears to be required is the presence of occurrent HOT directed at the particular target state, representing the particular states the subject is in. Access to disposition, even from a special-purpose short-term memory, is not sufficient for state consciousness.

The above considerations make the dispositional HOT theory unappealing. It seems in addition that its shortcomings can be avoided by the actualist HOT theory. Carruthers argues that this approach is saddled with the problem of cognitive overload. But is this consideration decisive? I will argue that the problem may present theoretical difficulties, but it is certainly not insurmountable.

To begin with, it is not entirely clear what evidence there is that a problem of cognitive resources would arise at all. In what way are we measuring cognitive resources? Humans, we are told, have very large brains proportional to their body size. How much of this brain power might be occupied by occurrent HOTs? Why does Carruthers assume that it is beyond our capacity to token these HOTs? He claims that it is "hard to believe" that large amounts of cognitive resources would be devoted to the re-representation of lower-level contents by HOT. But consider a proposal for state consciousness from cognitive

neuroscience developed by Antonio and Hannah Damasio (A. Damasio, 1994; Damasio and Damasio, 1996) that is arguably similar to a version of an actualist HOT theory. They propose not one or two, but *four* distinct representations involved in state consciousness, including representations of the state of the subject, the change of the state over time, the self, and the self responding to the change (see Damasio and Damasio, 1996, p. 25). This is not to claim that there are no issues over cognitive resources here, but to point out that theorists with a working knowledge of brain processes are willing to posit a considerable use of resources in state consciousness. Carruthers simply claims that this is hard to fathom, but he does not say why, nor does he offer any psychological or neurological evidence in support of the claim.

Furthermore, it is not clear that all that much of our cognitive resources are needed to token the requisite HOTs, from the perspective of an actualist HOT theory. Carruthers' phrasing makes it sound as if he is conflating the occurrent HOT position with a HOP position that re-represents sensory content in the manner of perception. Carruthers argues that an actualist position would have to posit re-representations of sensory content "as rich and complex as our conscious perceptions" (Carruthers, 1998, p. 13). This might be the case on a higher-order *perception* theory, where sensory states of the basic modalities are re-represented in some meta-perceptual medium, but it is clearly *not* the case for the actualist higher-order *thought* theory.

Such a theory posits *intentional* states that pick out and make us conscious of aspects of our lower-order states. Intentional states are obviously distinct from sensory states, and do not employ the complex mechanisms of sensation. Nor do they need to. The states employ intentional content to the effect that "I, myself, am in that state". The resources needed to achieve state consciousness are not so great, amounting only to a particular kind of intentional state, drawing on conceptual resources and involving a form of self-representation. In addition, the activation of the resources involved would largely be *unconscious* (see Rosenthal, 1993, p. 210). Some of the intuition behind the cognitive overload problem may stem from the fact that the HOTs involved are thought to be conscious, implying a great clutter of thoughts, choking the stream of conscious thinking. This is not implied by an actualist HOT approach.

A more telling reading of Carruthers' objection, however, questions the ability of intentional states employing conceptual resources to make conscious the full scope of perceptual experience. This, as I construe it, is less a problem of dealing with potential overload than of explicating just how intentional states could fill this role at all, no matter how much of our cognitive resources are devoted to the effort. Rosenthal acknowledges the situation, noting that "no higher-order thoughts could capture all the subtle variations of sensory quality we experience" (Rosenthal, 1993, p. 210). He proposes that HOTs "must refer [to sensory states] demonstratively, perhaps as occupying this or that position in the relevant sensory field" (ibid.). This is a problem of not having concepts to do the job, rather than not having enough brain power. It is beyond the scope of this commentary to work out the details this kind of proposal, but it could involve relational concepts like "darker than" or "brighter than", which could be used in conjunction with the usual store of concepts like "red" or "sharp", etc. to extend our conceptual repertoire.

Furthermore, multiple HOTs can occur together, extending the representational reach of each other. Though this is clearly a preliminary proposal, this seems to me to be a much more tractable undertaking than explaining why simple presence in a special-purpose short-term memory store provides us with the richness of conscious experience.

In any event, it seems that the dispositionalist theorist will need to develop this type of framework, if the HOTs are to have any role at all in our consciousness of sensory states. If such content can't be captured properly in HOT, we won't be conscious of it in short-term memory, or anywhere else, if we follow Carruthers' initial arguments against the FOR theories. So this problem looms for the dispositionalist as well as for the actualist, but the actualist is not saddled with the further burdens of the counter-intuitive dispositional approach.

It is a good time to consider the question of just how rich conscious experience is, anyway. One way to mitigate the problem faced by HOT proposals when it comes to conceptualizing sensory content is to question the fullness of our conscious experience. If things are not as rich as they seem, then the burden on HOT is that much less. Dennett (1991, 1995) has worked to promote the idea that there is less to conscious experience than we intuit, but Carruthers rejects this sort of move as implausible. Though he accepts that there is evidence that "the periphery of the visual field lacks the kind of determinacy we intuitively believe it to have" (Carruthers, 1998, p. 13), he denies that this could be the case in focal vision. But Dennett has offered further evidence that even focal vision is not what it seems. He presents cases where entire objects in the center of the field of vision change color or orientation during saccades, yet the subject does not notice any change (Dennett, 1995). This suggests that perhaps we do not actively represent and update all that happens in our sensory experience, and we may represent things in more general and demonstrative ways, with considerably less complexity than it may seem at first. This is a controversial area, where much more empirical work is called for to discover what is going on, but it seems to me a good possibility that consciousness is thinner than it seems, lending further support to the actualist position. In any event, Carruthers' dispositionalist account is saddled with the same representational problems. On either position, a "thin" view of consciousness is to the benefit of HOT theory.

Carruthers' article provides an excellent overview of current debates on natural theories of consciousness. He has made it to the doorstep of the most plausible current hypothesis, the actualist HOT position. So my humble advice to everyone, in light of the above arguments, is to "get active and get thin!" This strikes me as the healthy road to a natural theory of consciousness.

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